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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/582,000	06/07/2006	Shinichi Inoue	3273-0226PUS1	9234

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EXAMINER	
HEINCER, LIAM J	

ART UNIT	PAPER NUMBER
1796	

NOTIFICATION DATE	DELIVERY MODE
06/05/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary	Application No.	Applicant(s)	
	10/582,000	INOUE ET AL.	
	Examiner	Art Unit	
	Liam J. Heincer	1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 March 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2,6-8,12-14 and 22-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *2,6-8,12-14 and 22-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on March 30, 2009 has been entered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Belt et al. (US 6,521,694) in view of Huppke (US 2,410,661) and Sasagawa et al. (US 2003/0125475).

Considering Claim 2: Belt et al. teaches a latex (2:26-36) of a hydrogenated (1:11-16) natural rubber (2:15-19). Belt et al. teaches a degree of hydrogenation of at least 60% (3:51-58). As the term elastic has not been explicitly defined and any rubber composition will have at least some degree of elasticity, the claim is considered met. Belt et al. teaches hydrogenating the polymer in the presence of a catalyst (3:31-39) and a solvent (3:66-4:2).

Belt et al. does not teach crosslinking the product. However, Huppke teaches that a hydrogenated natural rubber can be vulcanized/crosslinked after hydrogenation to form an article (1:9-30). Belt et al and Huppke are analogous art as they are concerned with the same field of endeavor, namely hydrogenated isoprene polymers. It would have been obvious to a person having ordinary skill in the art at the time of invention to have vulcanized the rubber of Belt et al as in Huppke, and the motivation to do so would have been, as Huppke suggests, it will provide a partially vulcanized rubber with improved elasticity and resistance to oxidation (1:9-30).

The Office realizes that Huppke teaches that the process involving hydrogenating was problematic due to the harsh hydrogenation conditions. However, since Belt et al eliminates many of these drawbacks (1:17-60), a person having ordinary skill in the art at the time of invention would not be disinclined to use the hydrogenated embodiment disclosed in Huppke.

Belt et al. does not teach the claimed molecular weight. However, Sasagawa et al. teaches a hydrogenated polyisoprenoid (¶0021) with a weight average molecular weight of preferably 80,000 to 400,000 (¶0020). Belt et al. and Sasagawa et al. are analogous art as they are concerned with the same field of endeavor, namely hydrogenated polyisoprene polymers. It would have been obvious to a person having ordinary skill in the art at the time of invention to have used the molecular weight of Sasagawa et al. in the article of Belt et al., and the motivation to do so would have been, as Sasagawa et al. suggests, to increase the tensile strength of the article (¶0020).

Belt et al. does not teach the claimed molecular weight distribution. However, Sasagawa et al. teaches a hydrogenated polyisoprenoid (¶0021) with a molecular

weight distribution of preferably 1.85 to 4 (¶0020). It would have been obvious to a person having ordinary skill in the art at the time of invention to have used the molecular weight distribution of Sasagawa et al. in the article of Belt et al., and the motivation to do so would have been, as Sasagawa et al. suggests, to provide a polymer with good processabiltiy (¶0020).

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Belt et al. (US Pat. 6,521,694) in view of Huppke (US 2,410,661) and Sasagawa et al. (US 2003/0125475) as applied to claims 2 above, and further in view of Miller et al. (US Pat. 4,963,623).

Considering Claim 6: Belt et al., Huppke, and Sasagawa et al. collectively teach the articles of claim 2.

Belt et al. does not teach the polyisoprene as coming from the claimed sources. However, Miller et al. teaches obtaining a polyisoprene (1:19-21) from *Havea Brasiliensis* (1:13-15). Belt et al. and Miller et al. are analogous art as they are concerned with the same field of endeavor, namely polyisoprene latexes. It would have been obvious to a person having ordinary skill in the art at the time of the invention to have used the polyisoprene from *Havea Brasiliensis* in the article of Belt et al. as in Miller et al., and the motivation to do so would have been, as Miller et al. suggests, the high molecular weight of the polyisoprene (1:19-23).

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sasagawa et al. (US 2003/0125475) in view of Belt et al. (US Pat. 6,521,694) as evidenced by Miller et al. (US Pat. 4,963,623).

Considering Claims 7: Sasagawa et al. also teaches making a molded article from a resin composition (¶0041) comprising a hydrogenated polyisoprene (¶0021). Sasagawa et al. teaches a hydrogenated polyisoprenoid (¶0021) with a weight average molecular weight of preferably 80,000 to 400,000 (¶0020) and a molecular weight distribution of preferably 1.85 to 4 (¶0020).

Sasagawa et al. does not teach the polyisoprene as being a natural rubber. However, Belt et al. teaches a hydrogenated natural rubber with improved stability (2:15-25). Sasagawa et al. and Belt et al. are analogous art as they are concerned with the same field of endeavor, namely hydrogenated polyisoprene polymers. It would have been obvious to a person having ordinary skill in the art at the time of invention to have used the natural rubber of Belt et al. in the resin composition of Sasagawa et al., and the motivation to do so would have been, as Miller et al. suggests, the high molecular weight of the natural rubber (1:19-23) and the ability to use natural rubber latexes in processes without modification (1:13-17).

Claims 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Belt et al. (US 6,521,694) in view of Sasagawa et al. (US 2003/0125475).

Considering Claim 8: Belt et al. teaches a latex (2:26-36) of a hydrogenated (1:11-16) natural rubber (2:15-19). Belt et al. teaches a degree of hydrogenation of at least 60% (3:51-58). Belt et al. teaches hydrogenating the polymer in the presence of a catalyst (3:31-39) and a solvent (3:66-4:2) or latex (1:11-16).

The phrasing "which is a resin modifier" is functional language that does not change the scope of the claim. See MPEP § 2111.02.

Belt et al. does not teach the claimed molecular weight. However, Sasagawa et al. teaches a hydrogenated polyisoprenoid (¶0021) with a weight average molecular weight of preferably 80,000 to 400,000 (¶0020). Belt et al. and Sasagawa et al. are analogous art as they are concerned with the same field of endeavor, namely hydrogenated polyisoprene polymers. It would have been obvious to a person having ordinary skill in the art at the time of invention to have used the molecular weight of Sasagawa et al. in the article of Belt et al., and the motivation to do so would have been, as Sasagawa et al. suggests, to increase the tensile strength of the article (¶0020).

Belt et al. does not teach the claimed molecular weight distribution. However, Sasagawa et al. teaches a hydrogenated polyisoprenoid (¶0021) with a molecular weight distribution of preferably 1.85 to 4 (¶0020). It would have been obvious to a

person having ordinary skill in the art at the time of invention to have used the molecular weight distribution of Sasagawa et al. in the article of Belt et al., and the motivation to do so would have been, as Sasagawa et al. suggests, to provide a polymer with good processabiltiy (¶0020).

Claims 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sasagawa et al. (US 2003/0125475) in view of Belt et al. (US Pat. 6,521,694) as evidenced by Miller et al. (US Pat. 4,963,623).

Considering Claims 12-14: Sasagawa et al. teaches a resin composition comprising a resin (¶0036) and a hydrogenated polyisoprene (¶0021) present in an amount form 0.1 to 100 parts by weight per 100 parts by weight of the resin (¶0036). Sasagawa et al. teaches a hydrogenated polyisoprenoid (¶0021) with a weight average molecular weight of preferably 80,000 to 400,000 (¶0020) and a molecular weight distribution of preferably 1.85 to 4 (¶0020). Sasagawa et al. also teaches making a molded article from the resin composition (¶0041).

Sasagawa et al. does not teach the polyisoprene as being a natural rubber. However, Belt et al. teaches a hydrogenated natural rubber with improved stability (2:15-25). Belt et al. teaches a degree of hydrogenation of at least 60% (3:51-58). Sasagawa et al. and Belt et al. are analogous art as they are concerned with the same field of endeavor, namely hydrogenated polyisoprene polymers. It would have been obvious to a person having ordinary skill in the art at the time of invention to avhe used the natural rubber of Belt et al. in the resin composition of Sasagawa et al., and the motivation to do so would have been, as Miller et al. suggests, the high molecular weight of the natural rubber (1:19-23) and the ability to use natural rubber latexes in processes without modification (1:13-17).

Claims 22 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Belt et al. (US 6,521,694) in view of Huppke (US 2,410,661) and Sasagawa et al. (US 2003/0125475).

Considering Claims 22 and 23: Belt et al. teaches a latex (2:26-36) of a hydrogenated (1:11-16) natural rubber (2:15-19). Belt et al. teaches a degree of hydrogenation of at least 60% (3:51-58). As the term elastic has not been explicitly defined and any rubber composition will have at least some degree of elasticity, the claim is considered met. Belt et al. teaches hydrogenating the polymer in the presence of a catalyst (3:31-39) and a solvent (3:66-4:2).

Belt et al. does not teach crosslinking the product. However, Huppke teaches that a hydrogenated natural rubber can be vulcanized/crosslinked after hydrogenation to form an article (1:9-30). Belt et al and Huppke are analogous art as they are concerned with the same field of endeavor, namely hydrogenated isoprene polymers. It would have been obvious to a person having ordinary skill in the art at the time of invention to have vulcanized the rubber of Belt et al as in Huppke, and the motivation to do so would have been, as Huppke suggests, it will provide a partially vulcanized rubber with improved elasticity and resistance to oxidation (1:9-30).

The Office realizes that Huppke teaches that the process involving hydrogenating was problematic due to the harsh hydrogenation conditions. However, since Belt et al eliminates many of these drawbacks (1:17-60), a person having ordinary skill in the art at the time of invention would not be disinclined to use the hydrogenated embodiment disclosed in Huppke.

Belt et al. does not teach the claimed molecular weight. However, Sasagawa et al. teaches a hydrogenated polyisoprenoid (¶0021) with a weight average molecular weight of preferably 80,000 to 400,000 (¶0020). Belt et al. and Sasagawa et al. are analogous art as they are concerned with the same field of endeavor, namely hydrogenated polyisoprene polymers. It would have been obvious to a person having ordinary skill in the art at the time of invention to have used the molecular weight of Sasagawa et al. in the article of Belt et al., and the motivation to do so would have been, as Sasagawa et al. suggests, to increase the tensile strength of the article (¶0020).

Belt et al. does not teach the claimed molecular weight distribution. However, Sasagawa et al. teaches a hydrogenated polyisoprenoid (¶0021) with a molecular

weight distribution of preferably 1.85 to 4 (¶0020). It would have been obvious to a person having ordinary skill in the art at the time of invention to have used the molecular weight distribution of Sasagawa et al. in the article of Belt et al., and the motivation to do so would have been, as Sasagawa et al. suggests, to provide a polymer with good processabiltiy (¶0020).

Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Belt et al. (US Pat. 6,521,694) in view of Huppke (US 2,410,661) and Sasagawa et al. (US 2003/0125475) as applied to claim 22 above, and further in view of Miller et al. (US Pat. 4,963,623).

Considering Claim 24: Belt et al., Huppke, and Sasagawa et al. collectively teach the articles of claim 22.

Belt et al. does not teach the polyisoprene as coming from the claimed sources. However, Miller et al. teaches obtaining a polyisoprene (1:19-21) from *Havea Brasiliensis* (1:13-15). Belt et al. and Miller et al. are analogous art as they are concerned with the same field of endeavor, namely polyisoprene latexes. It would have been obvious to a person having ordinary skill in the art at the time of the invention to have used the polyisoprene from *Havea Brasiliensis* in the article of Belt et al. as in Miller et al., and the motivation to do so would have been, as Miller et al. suggests, the high molecular weight of the polyisoprene (1:19-23).

Double Patenting

Applicant is advised that should claim 2 be found allowable, claim 23 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Response to Arguments

Applicant's arguments filed March 30, 2009 have been fully considered but they are not persuasive, because:

A) Applicants assertion that the process of Belt cannot produce the instant invention is not persuasive. The arguments of counsel cannot take the place of evidence in the record. *In re Schulze*, 346 F.2d 600, 602, 145 USPQ 716, 718 (CCPA 1965). See MPEP § 716.01(c). The applicant has provided no evidence to show that the hydrogenation method of Belt et al. is incapable of forming the claimed article.

B) Applicants argument that Belt et al. does not exemplify natural rubber is not persuasive. A reference may be relied upon for all that it would have reasonably suggested to one having ordinary skill the art, including nonpreferred embodiments. *Merck & Co. v. Biocraft Laboratories*, 874 F.2d 804, 10 USPQ2d 1843 (Fed. Cir.), *cert. denied,* 493 U.S. 975 (1989). As Belt et al. discloses natural rubber as one of the possible species (2:15-20), the hydrogenation of natural rubber is known. Additionally, Belt et al. teaches a finite number of possible rubbers for the process, namely seven. When there a finite number of known alternatives and a reasonable expectation of success, it is obvious to a person having ordinary skill in the art at the time of invention to try any of the alternatives. See MPEP § 2143.

Applicants further argument that the result would not be predictable is not persuasive. The arguments of counsel cannot take the place of evidence in the record. *In re Schulze*, 346 F.2d 600, 602, 145 USPQ 716, 718 (CCPA 1965). See MPEP § 716.01(c). The applicant has provided no support for the allegation that undue experimentation, and large expense, would be needed to choose natural rubber from the disclosure of Belt et al. As discussed above, Belt et al. discloses seven possible rubber compounds. It would be well within the skill of a person having ordinary skill in the art at the time of invention to test seven alternatives without undue experimentation. The test of is not whether any experimentation is necessary, but whether, if experimentation is necessary, it is undue. *In re Angstadt*, 537 F.2d 498, 504, 190 USPQ 214, 219 (CCPA 1976). See MPEP § 2164.01.

C) Applicants argument that Belt et al. teaches away from crosslinking is not persuasive. Belt et al. teaches that crosslinking during the hydrogenation process can lead to the trapping of the heavy metal catalysts used during hydrogenation (1:48-52). However, Belt et al. is silent towards the negative effects of crosslinking following the hydrogenation of a rubber. As Huppke et al. provides motivation to crosslink the hydrogenated natural rubber, and Belt et al. does not provide any teaching away from the combination, the crosslink step is rendered obvious by the combination.

The fact that Belt et al. and Huppke et al. teach two distinct processes does not differentiate the present invention from the prior art, as the instant claims require a two step process.

D) In response to applicant's argument that Belt et al. and Sasagawa et al. are nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, Belt et al. and Sasagawa et al. are analogous art as they are concerned with the same field of endeavor, namely hydrogenated polyisoprene polymers. While the polymers of Belt et al. and Sasagawa et al. are not identical at a chemical level, the functionality (conjugated dienes) required by the two references is identical. Therefore, a person having ordinary skill in the art at the time of invention would consider the teachings to be analogous.

Additionally, the teachings of Sasagawa et al. are not limited to a specific polymer but is open to all conjugated dienes (¶0021). As such, absent evidence to the contrary, the teachings are considered to apply to the conjugated dienes of Belt et al.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Liam J. Heincer whose telephone number is 571-270-3297. The examiner can normally be reached on Monday thru Friday 7:30 to 5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Eashoo can be reached on 571-272-1197. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mark Eashoo/ LJH
Supervisory Patent Examiner, Art Unit 1796 May 27, 2009